United States Department of the Interior

FISH AND WILDLIFE SERVICE
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Memorandum

To: Regional Directors, Region 1-7, and CNO

From: Deputy Director Kenneth Stansell

Subject: Emergency Stabilization Cost Containment

We continue to see increasing fiscal concerns within the Federal Government and the desire to minimize Federal spending to reduce budget deficits. Federal fire management budgetary policy dictates that the annual Wildland Fire Management Emergency Operations funding level (including suppression, severity, and emergency stabilization) be maintained at the average annual cost over the prior 10-year period. We have seen flat budgets across the wildland fire program appropriation for the past few years, but steadily increasing costs of suppression activities. The net result is a significant decrease in our fire management base program budgets. We face potential serious additional cuts to our base programs including preparedness, fuels, emergency rehabilitation, rural fire assistance and others, if we can not bring suppression expenditures under control.

This year the Department imposed the first ever cap on Severity authorizations as one measure to attempt to limit raising suppression costs. Last month the Office of Management and Budget (OMB) placed a cap on Forest Service Emergency Stabilization (ES) authorization. Currently, the Department of the Interior is reviewing a number of proposals to limit ES funding, desiring to take a pro-active approach to show concern in holding costs down. We need to act on this issue and design our own approach.

One option is to do a much better job of designing ES plans that are defensible, follow policy, and are backed up by good science. Recent research has shown that many universally accepted emergency stabilization treatments that are commonly employed within the Service are actually no more effective than natural recovery (see attached synopsis and citations).

In order to improve cost effectiveness through science based adaptive management and minimize future reductions in preparedness and other base program funding, all Emergency Stabilization planning must adhere to Department of the Interior policy (620 DM 3.6.B) requiring that *standard treatments are to be used* ***that have been validated by monitoring data from previous projects, or when there is documented research establishing the effectiveness of such actions***.

All future Burned Area Emergency Response (emergency stabilization) plans must:

> Justify proposed treatment(s) with existing research or monitoring documentation that demonstrates that the proposed treatment(s) are significantly more effective in achieving the emergency stabilization objective than natural recovery - especially treatments proposing seeding and/or mulching to address imminent water and wind erosion and non-native plant issues. At a minimum this requires an unbiased experimental design and statistical analysis of the appropriate 620 DM 3.7.M emergency stabilization objective comparing treated and similar untreated areas or professionally accredited modeling (e.g., hydrologic models) that demonstrates the existing infrastructure requires modification to address high probability future events (e.g., increased post-wildfire runoff from a 5-year rainfall event).

Plan reviewers and approvers must also insure that proposed treatments conform with Interagency Burned Area Emergency Response Guidebook standards and are intended to address only the allowable actions outlined in 620 DM 3.7.M - including preventing or minimizing immediate non-native invasive species establishment after the wildfire, not treating invasive species problems that existed prior to the wildfire.

A separate Burned Area Rehabilitation Plan will be used to propose treatments where there is not sufficient research or data to justify Emergency Stabilization funding, but where there is data available to demonstrate that treatments are significantly better than natural recovery in achieving a burned area rehabilitation allowable action (620 DM 3.8.M).

All Emergency Stabilization and Emergency Rehabilitation plans must be reviewed by our National Burned Area Emergency Response Coordinator located within the Branch of Fire Management at the National Interagency Fire Center in Boise, Idaho. These plans must contain all the planning elements in the generic templates provided at the Department of the Interior's Emergency Stabilization and Burned Area Rehabilitation web site.

If you have any questions or need any additional information regarding policy or required treatment effectiveness documentation, you can contact National Burned Area Emergency Response Coordinator Bill Leenhouts at 208-387-5584.

cc:
Regional Fire Management Coordinators (Regions 1-7, CNO)
Chief, Division of Natural Resources

Synopsis of peer reviewed research findings about treatments designed to reduce water and wind erosion and seeding to control non-native invasive species.

Moody and Martin (2001) found that the risk of flooding, debris flows and mudflows is significantly increased with increasing rainfall intensities and burn severity, and (Pietraszek 2006) found rainfall intensity and ground cover accounting for 62 percent of the variability in hillside erosion. Looking at individual hillside stabilization treatments, Robichaud and Elliot (2006) found that wood and straw mulch reduced erosion rates by 60 to 80%, contour-felled log erosion barriers 50 to 70%, hydromulch 19% and grass seeding has little effect the first year during low intensity rainfall events but all were relatively ineffective in high intensity rainfall events. Because most life threatening post-wildfire flooding, debris flows and mudflows result from high intensity rainfall events, Moody and Martin (2001) proposed that early warning flood systems are more effective then stabilization treatments in reducing risks to human life.

In a synthesis of post-wildfire seeding erosion control studies, Beyers (2004) found that less than half of the studies reviewed showed any reduced sediment movement with seeding and in all vegetation types and where there was successful growth of seeded grasses (i.e., enough to affect erosion) the seeded plants displace native or naturalized species, including shrub and tree seedlings. Thompson et al. (2006) also found that neither seeded (drilled or aerial) or unseeded plots showed significant signs of wind erosion or deposition throughout the study as evidenced by little difference (<2mm) in the height of washers on erosion measurement stakes.

Hunter et al. (2006) found that non-native plant cover in burned areas was correlated with high native species richness, low native dominant species cover, and post-wildfire seeding operations (i.e., seeding operations were contaminated with non-native plant seeds). Kruse et al. (2004) also found that mulched areas have a significantly higher occurrence of non-native species then untreated areas due to non-native plant contamination. Seeded burned areas at Mesa Verde National Park had significantly less non-native plants than unseeded burned areas but significantly more than unburned areas except there was no significant difference in cheatgrass (*Bromus tectorum*) between seeded or unseeded burned areas (Floyd 2006). In a Utah study, cheatgrass and three annual forbs made up the majority of plant density and cover and during the third year following seeding the density of annuals more than doubled, whereas there was little change in seeded native species density (Thompson et al. 2006). Brooks et al. (2004) concluded that the probability of non-native plant control strategies being successful decreases and the cost of control increases significantly when non-native species become naturalized in the area and especially when they begins altering the fire regime.

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